Observatory News

March 2010 **Published by the Friends of the Observatory** **Volume 21 No. 3**
513-321-5186 www.cincinnatiobservatory.org Bill Cartwright, editor wcartw@aol.com

Coming Up At The Observatory....

Mar. 1, 7-9 pm * Mars
Mar. 4, 7:30 pm FOTO Monthly Meeting
Mar. 5, 7 pm FOTOKids
Mar. 7, 7 pm Dave Bosse's A2Ztronomy Class-Section 2
Mar. 8, 7 pm Dave Bosse's A2Ztronomy Class-Section 1
Mar. 11, 8 pm Astro Thursday
Mar. 12, 8 pm Astro Friday
Mar. 13, Stonelick Star Party
Mar. 14, 1-4 pm History Tours
Mar. 18, 6 pm FOTO Board Meeting
Mar. 18, 8 pm Astro Thursday
Mar. 19, 8 pm Astro Friday
Mar. 20, Stonelick Star Party
Mar. 20, Eve International Sidewalk Astro Night
Mar. 20, 7-11 pm Ghost Hunting at the Observatory
Mar. 22, 8 pm Moonday Monday
Mar. 25, 8 pm Astro Thursday
Mar 26, 8 pm Astro Friday
Mar. 27, 8 pm Astro Saturday
Mar. 28, 1-4 pm History Tour
Apr. 1, 7:30 pm FOTO Meeting
* = Communiversity Course, call 513-321-5186 or visit www.cincinnatiobservatory.org for more information.

The *Word* from FOTO's President Zoller

As a kid growing up in Cincinnati, my favorite elementary school field trip was to the old Natural History Museum on Gilbert Avenue. And my favorite part of the museum was – surprise – the planetarium show. In 1968 we moved to Columbus and I went to high school there. During my senior year, our English class came to Cincinnati to attend a play at the *Playhouse in the Park* in Mt. Adams. We had a couple hours to kill between arriving in Eden Park and the start of the play, so I gathered up a few of my friends and took them down the hill on the path behind the old museum. We toured the museum and were able to attend a planetarium show. It brought back fond memories for me, and I think the planetarium show may have impressed my friends more than the play.

Unfortunately, when the Natural History Museum moved to Union Terminal, the planetarium was not included in the plans. While it is disappointing that there is no planetarium at the new museum, there are alternatives in the Cincinnati area. The Wolff Planetarium is located in the Trailside Museum in Burnet Woods. Dating from 1950, it is the oldest planetarium west of the Allegheny Mountains. The Drake Planetarium located at Norwood High School is very popular, and the planetarium at Northern Kentucky University has the latest in digital technology.

Recently, about a dozen FOTO members attended a show at the Wolff Planetarium. The Trailside Museum is a beautiful building designed in the style of Frank Lloyd Wright's *Fallingwater*. The viewing room is small and intimate, holding a maximum of 20 people. And while the Spitz A-1 projector is definitely low tech, it does a very credible job at recreating the night sky. The representation of both star/planet magnitude and color is excellent. The presentation by Park Naturalist Michael George (one of the "40 Galileos") was entertaining and informative. He takes care to understand the knowledge level of the audience and gears the presentation accordingly. After his evening shows, Mr. George takes the audience outside (weather

permitting) to experience firsthand what was presented in the show. If you have friends, children or grandchildren with an interest in astronomy, the Wolff Planetarium is an excellent place to introduce them to the wonders of the night sky.

The missions of the Observatory and planetariums goes hand-in-hand. They are different means to the same end – introducing people to astronomy and science. As the year progresses, we hope to organize FOTO field trips to the other local planetariums. There is even talk of planning a trip to the Adler Planetarium in Chicago. We hope you will join us.

FOTO's March Meeting

The March 2010 FOTO meeting will be held on the first Thursday of the month, **March 4, 2010 at 7:30 pm** in the west wing of the Herget Building at the Observatory. We will not have a special speaker this month. Instead, we will discuss proposed revisions to how FOTO is funded by the COC. This is a very important subject involving FOTO's future and we need input from FOTO members.

Don't forget, we also have an informal dinner before the meeting around 6 pm at Panera Bread in Hyde Park Plaza.

February FOTO Meeting Highlights

COC Representative: Scott Gainey announced that the digital camera, donated by Alan Holmes (president of SBIG), has arrived. Scott showed the camera to the membership. Mr. Holmes also custom-made a focal reducer for our telescope, and requested that a colleague at Custom Scientific, David Marcus, donate a V filter for the camera. Mr. Holmes has agreed to serve on COC's Advisory Board.

Director's Comments: Craig Niemi announced that attendance for 2009 was almost 22,000 visitors to COC, a 6% increase from last year.

Funds are not available to hire another teacher at this time, and there was somewhat lower participation of the schools in COC programs this past year due to budget cuts. However, 42 schools were served in 2009.

COC has received a grant to extend the Galileos Program for another 2 years, with 20 participants each year. COC has received numerous inquiries about this program, including some from other cities.

Astronomy Thursdays and Fridays have been going well and were awarded "Best in City."

February's presentation was by UC astronomy instructor **Dave Bosse** who presented "The Saros" and other patterns related to predicting solar and lunar eclipses.

FOTOkids Meeting

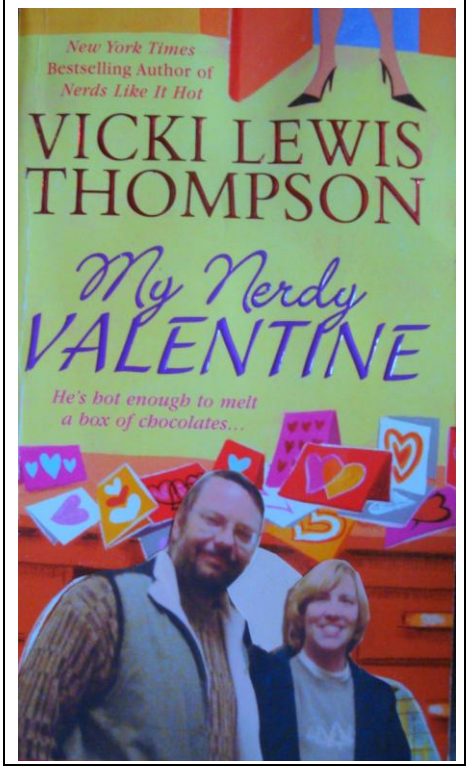
By Dean Regas

The next FOTOKids meeting is **Friday, March 5, at 7 pm**. We have had some very bad luck with the weather lately and had to cancel last month's meeting. That means we have even more to talk about, including the 2012 End-of-the-World Myth, and telescope repair. Dean Regas requests that you bring any binoculars or telescopes to aid in viewing. If you do not have a telescope, never fear. The Observatory has recently received some donated telescopes and Dean will be selecting members to take them home for a month. *In case of bad or iffy weather please call the Observatory (513-321-5186) after 4pm on meeting days. If it is canceled, Dean will leave a message on the voice mail.

Director Downed by Ice

We wish **Craig Niemi,** our Executive Director, a complete and speedy recovery from his operation. On Thursday, February 18, he fell on the ice while walking a dog, injured his leg, and on Friday had a knee surgery to reattach his quadricep muscles to his knee cap. He claimed that his lower leg was useless in that condition!!!

Get well soon Craig, we miss you!!!



The Planning Meeting

By Dale Zoller

The next FOTO Planning meeting is scheduled for **Thursday, March 18,** at **6 pm** at the **Observatory**.

The meeting generally lasts a couple hours. The Planning meetings are open to all FOTO members. We encourage your participation in planning future FOTO activities.

A2Ztronomy Off and Running

By Dave Bosse

The first session of the free-to-members intro to Astronomy class, "A2Ztronomy" is now behind us and we all look forward to the next gathering. The two "sections" will be meeting on the second Sunday and second Monday of each month convening at 7:00 P.M. (with an exception in March when we will meet on Sunday the 7th and Monday the 8th).

An official syllabus of topics is being developed and will be provided during the next session (like we're going to stay on-topic!). Actually more like *guidelines*, rather than a strict agenda.

For those wanting to get a head start for the next session, the March edition will be covering a little astronomy history (without getting too boring) and some elements of sky mechanics and motions in the sky. Bring your inquisitive nature and maybe a planisphere. We've got some learnin' to do!

Free for members. Reservations are required. Call 513-321-5186 or email the Observatory.

Word of the Month

By Greg Huber

"Galactic Cluster"

February's Word: "Moon's Sphere"
In the Ptolemaic system, the Moon was fixed in the innermost of nine spheres which revolved around the Earth.

Did You Know….

Saturn's rings are made up almost entirely of icy rubble.

Craig's Corner

By Craig Niemi,

I knew I was complaining about the weather too much. Usually I don't mind cold weather and snow but this year it had gotten old fast. So old man winter decided to get even by saving an icy patch of sidewalk for me. Next thing you know you've visited the emergency room and have been in and out of knee surgery. How ironic that I get to spend the next 30 days until the spring equinox with my leg clamped in a brace. But by summer we should be climbing up and down the observing steps at the "O" like a champ.

We hope you'll take advantage of the two sessions of A2Z-tronomy. A2Z is our astronomy class for $50 members and above. The Monday night session was overbooked and course instructor **Dave Bosse** generously agreed to offer another session on Sunday evenings. Our thanks to Dave for offering his expertise. It's going to be a great series.

Also coming up in March is *Astrophotography for Beginners*. With your digital camera and a few helpful tips you'll soon be taking amazing pictures of planets, star clusters, and nebulas. This three-night course will be led by local amateur astronomers and amazing astrophotographers **Fred Calvert** and **Eric Africa**. They will bring their years of experience with basic equipment to show you how to take the best pictures of the sky.

And thanks to the ***Greater Cincinnati Foundation*** for providing the funding for our IT infrastructure update!

Board members **Andy Park** and **Basil Rowe** have evaluated phones, computer, networking, software, etc in a much needed effort to get our system up-to-date and increase office efficiency.

Part of the plan includes our new development/membership software eTapestry and we'll also be updating our accounting system so it better reflects this growing organization.

Be safe out there.
Craig

Trivia Question

By Greg Huber

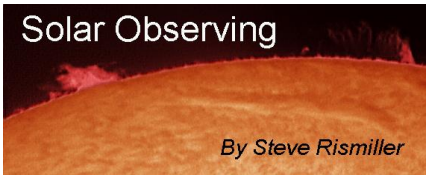
What booster rocket was used to launch John Glenn into orbit in 1962?

February's Question
Who wrote the first science fiction story?
The Answer
Johannes Kepler in his "Somnium" story that involved a four-hour flight to the moon, which was "most difficult and fraught with the greatest danger to life." The characters encountered monsters in a terrain closely resembling earthly topography. This work was published posthumously by Kepler's widow, who was left in financial need following Kepler's death.

International Sidewalk Astronomy Night

Saturday, March 20

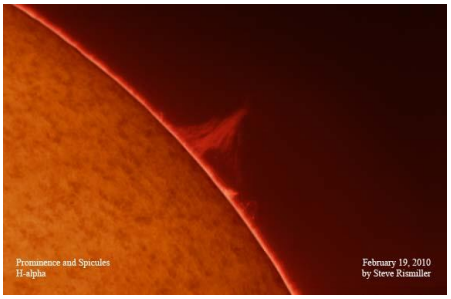
Have telescope - will travel. Join the members of the Cincinnati Observatory in a public place near you. The Observatory will be bringing portable telescopes to the streets on the Tri-state that night and joining thousands around the world to share the night sky with the unsuspecting public. If you would like to help, we are looking for volunteers with or without a telescope to help. If you are interested, please call Dean Regas at 513-321-5186.



Last month in this column I talked about how the solar cycle appears to be coming out of solar minimum. Since then the Cincinnati area has been covered with gray, snow-filled clouds and we have been dumped on with snow making me feel like I am living back in the ice ages.

However, I have had 4 days in February that were great days to observe the sun. Six active regions have come and gone and one in particular put on quite a show by producing some of the best solar flares I have seen in the past 3 years. Active Region 1046 appeared on the east solar limb on Feb. 6th and as it rotated across the disk it produced C and M class flares. Flares are short-lived and appear bright white in H-alpha filtered telescopes. A solar flare's life is measured in minutes. These flares contributed to auroral activity in Earth's Polar Regions. By Feb. 17, AR 1046 had rotated out of sight.

Prominence activity on the solar limb is also going strong. My image below shows a nice large prominence on Feb 19th protruding above the pink spicules on the



northwest limb.

Prominences unlike flares are usually long-lived and can last for days. They do not produce the amount of energy that a flare produces and are dull and red in color.

Welcome Renewing & New FOTO and COC Members!

Quinn Amos
Eric and Aretta Baumgartner
Paul Blasing
David E. Burcham
Tom Busemeyer
Brian Calvert
Melody and Dave Dargis
Jean Durbin
Carl Eastwood
Noah and Julie Fleischmann
Julie Glassmeyer
Guy Guckenberger
Mary Lou Hoffar
Robert Heslar
Robert Hutchison
Richard Lyke
Charles and Lorraine Maguire III
Bob and Joyce Maly
Art and Carol McCardle
Stefan Olson
Kristin Maly and Joe Vitucci
Gia Rili
Gayle and Bill Sherman
Curt Spear
Bob Stiens
Grant and Mary Stewart
Connie and Jack Sullivan
Vernon Walatka
John A. Williamson

Star Parties

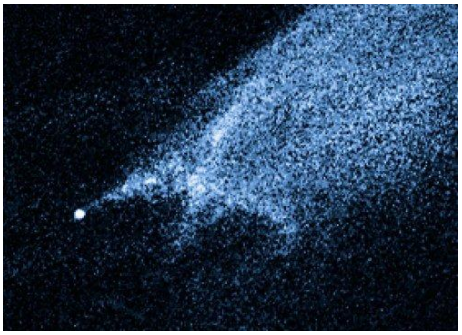
By Scott Naylor

The next scheduled Stonelick Star Parties will be **Saturday, March 13th and Saturday, March 20th.**

For directions or for more information phone Scott Naylor at 513-575-5556.

Hubble Sees Suspected Asteroid Collision

NASA's Hubble Space Telescope has observed a mysterious X-shaped debris pattern and trailing streamers of dust that suggest a head-on collision between two asteroids. Astronomers have long thought that the asteroid belt is being ground down through collisions, but such a smashup has never been seen before.



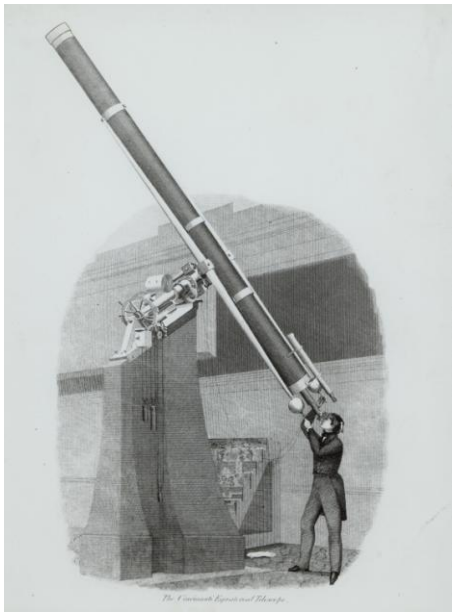
If this interpretation is correct, two small and previously unknown asteroids recently collided, creating a shower of debris that is being swept back into a tail from the collision site by the pressure of sunlight. http://science.nasa.gov/headlines/y2010/02feb_asteroidcollision.htm?list739819

Did You Know….

On Neptune defrosted methane normally trapped as ice in the planet's atmosphere is being released as a gas. It's a mystery as to why there is eight times more methane over the South Pole than in the rest of the planet's atmosphere.

The Sidereal Messenger

By John Ventre



The picture is of the litho of the original Merz & Mahler telescope in the Mt. Adams Observatory, with O.M.Mitchel at the eyepiece. This is the picture that was first published in the 1846 "Sidereal Messenger."

Are You Threatened by TGFs When Flying?

Terrestrial gamma-ray flashes (TGFs) surge through thunderstorms at about the same altitude where commercial airliners fly. Do these blasts of gamma-radiation pose a hazard to air travelers? Researchers discuss the possibilities in the story from Science@NASA.
FULL STORY at
http://science.nasa.gov/headlines/y2010/10feb_friendlyskies.htm?list739819

Did You Know….

Pluto's moon Charon is a whopping half the size of Pluto! The next largest duo is the Earth-Moon paring, but our Moon is only a quarter the diameter of Earth.

The Mystery of Black Holes

Astrophysicists Discover New Details of How Stars Collapse

A satellite called Swift is revealing that black holes have a messier birth than previously thought. Instead of being created in one instant, astrophysicists now believe after a star dies and collapses -- ultimately forming a black hole -- it continues to cause havoc. The baby black hole devours material while at the same time spewing it back out, a process that is revealed in multiple outbursts of gamma rays.

Invading Black Holes Explain Cosmic Flashes

Black holes are invading stars, providing a radical explanation to bright flashes in the universe that are one of the biggest mysteries in astronomy today.

The flashes, known as gamma ray bursts, are beams of high energy radiation – similar to the radiation emitted by explosions of nuclear weapons – produced by jets of plasma from massive dying stars.

The orthodox model for this cosmic jet engine involves plasma being heated by neutrinos in a disk of matter that forms around a black hole, which is created when a star collapses.

But mathematicians have come up with a different explanation: the jets come directly from black holes, which can dive into nearby massive stars and devour them.
http://www.sciencedaily.com/releases/2009/09/090918100015.htm

From Dale Zoller

Did You Know….

The massive star called Betelgeuse has gotten smaller in the last 15 years. The news is surprising considering red super-giants typically swell in size as they near the end of their lives.

New Hubble Maps of Pluto Show Surface Changes

NASA released the most detailed set of images ever taken of the distant dwarf planet Pluto. The images taken by NASA's Hubble Space Telescope show an icy and dark molasses-colored, mottled world that is undergoing seasonal changes in its surface color and brightness.

Pluto has become significantly redder, while its illuminated northern hemisphere is getting brighter. These changes are most likely consequences of surface ices sublimating on the sunlit pole and then refreezing on the other pole as the dwarf planet heads into the next phase of its 248-year-long seasonal cycle. The dramatic change in color apparently took place in a two-year period, from 2000 to 2002.
http://www.physlink.com/news/1002PlutoChanges.cfm

Brown Dwarf Sets Record Low Temperature

A bizarre failed star with a record-breaking low surface temperature has been discovered by the United Kingdom Infrared Telescope in Hawaii, extending the range of extremes the properties of these kinds of objects can possess.
http://www.astronomynow.com/news/n1002/01browndwarf/

More Evidence For Water On Enceladus

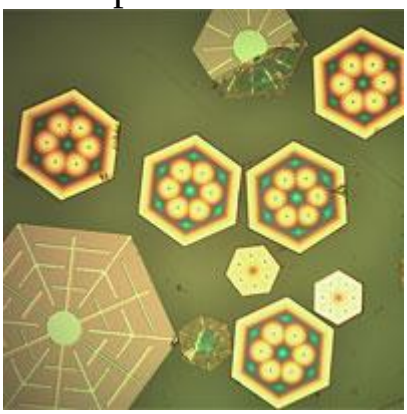
Icy jets are clearly visible in this image when Cassini was 187,000 kilometers from the moon. Image: NASA/JPL/Space Science Institute.

Unexpected populations of charged molecules and dust tasted by the Cassini spacecraft as it plunged through the plumes of Enceladus provide further evidence that the moon harbors liquid water beneath its icy shell.
http://www.astronomynow.com/news/n1002/09enceladus/

Did You Know…

The internal temperature of a collapsing neutron star is around 10 billion degrees K.

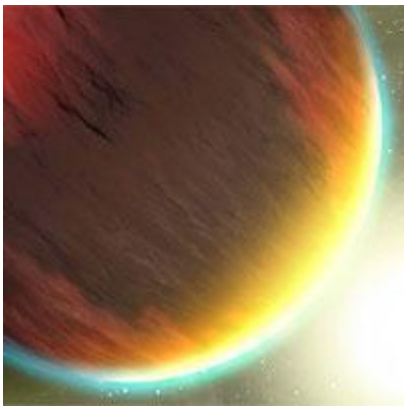
Glitter-Sized Solar Photovoltaics Produce Competitive Results



Representative thin crystalline-silicon photovoltaic cells – these are from 14 to 20 micrometers thick and 0.25 to 1 millimeter across

Scientists have developed tiny glitter-sized photovoltaic cells that could revolutionize the way solar energy is collected and used.
http://www.physlink.com/news/1002SolarCells.cfm

Astronomers Find Organic Molecules Around Gas Planet



The basic chemistry for life has been detected in a second hot gas planet, HD 209458b, depicted in this artist's concept

Peering far beyond our solar system, NASA has detected the basic chemistry for life in a second hot gas planet, advancing astronomers toward the goal of being able to characterize planets where life could exist.
http://www.physlink.com/news/1009-Organic-Molecules-Planet.cfm

Falcon 9 Reaches Launch Pad

The 154-foot-tall Falcon 9 rocket, topped by a Dragon capsule test unit, was recently rolled out to its Cape Canaveral launch pad. The booster will then undergo compatibility checks, a fueling test and an engine static fire test.

The End